

Remarks/Arguments

Claims 1, 3, 4 and 7–10 are pending in the application. Favorable reconsideration and allowance of this application is respectfully requested in light of the remarks that follow.

1. **Interview Summary**

Applicant and applicant's representative wish to thank Examiner Tugbang for his courtesy during the personal interview conducted on April 25, 2006. During this interview, the rejections of the various claims were discussed, along with the prior art cited against the claims. Applicant's representative noted that U.S. Patent No. 4,745,388 to Billings et al. did not disclose the step of overmoulding a body from a block of an insulating material as recited in the claims. Despite its firm belief in the inappropriateness of the Examiner's use of the Billings reference, in order to expedite prosecution and further distinguish the claimed invention from the cited prior art, applicant's representative offered to amend independent claim 1 to recite that the overmoulding step was performed after the formation of the flat coil. Examiner Tugbang indicated that the proposed amendment would overcome the rejection, but also introduce new issues and prompt the issuance of an advisory action. *Applicant disagrees because, as discussed below, the order of the overmoulding step is inherent in the claim and thus already recited in claim 1.* Therefore, while Applicant has not made the referenced amendments, he reiterates his offer to Examiner Tugbang, should the Examiner reconsider.

2. Claim Rejections Under 35 U.S.C. §102(b)

The rejection of claims 1 and 3 under 35 U.S.C. §102(b) as being anticipated by Billings et al. U.S. Patent No. 4,745,388 (the '388 patent) is respectfully traversed, because, *inter alia*, independent claim 1, from which claim 3 depends, results in subject matter not disclosed in the '388 patent. Specifically, the method of claim 1 requires, *inter alia*, that a body formed from a block of insulating material be formed by overmoulding the insulating material onto the coil.

In contrast, the '388 patent does *not* disclose any block of insulating material that is overmoulded onto the coil as required by claim 1. The Examiner maintains that bobbin assembly 14 is equivalent to the body overmoulded from a block of insulating material. However, as discussed in greater detail below, the bobbin assembly 14 or any portion thereof is not overmoulded over a flat coil as recited in the claims and defined in the specification. The primary 28 and secondary 32 windings are instead wound around the hub 16 of the bobbin 14 only after the bobbin 14 is formed. See Col. 2, lines 7-22. While the Examiner is correct in noting that the bobbin 14 disclosed in the '388 patent is a single, integral molded part, there is absolutely no discussion of overmoulding the bobbin onto the other component parts as recited in the claims. This is due in large part to the fact that a preformed bobbin 14 is used and the windings 28, 32 are subsequently wound around the bobbin.

It is apparent from the logic used by the Examiner in making his rejection as well as from his comments during the interview that he has misinterpreted the meaning of the term "overmoulding." The Examiner notes that the bobbin is overmoulded because 1) it is molded plastic, and 2) it is located over the flat coil and the connecting terminals. The Examiner, in error, substitutes the word "located" for the recited "overmoulding" in order to cure the glaring deficiencies in the '388 patent. Likewise, in the last office action, the Examiner noted that the order of when the flat coil is formed relative to the body is not claimed. This position, however, is inconsistent with any acceptable meaning of the term "overmoulding" as supported by the specification, and other secondary materials.

The Examiner may not construe a claimed term in a manner that is inconsistent with the specification or the term's ordinary meaning. *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000). The Federal Circuit recently reaffirmed that the specification is the first source one should consult in determining a claim's meaning. *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed.Cir.2005). As the Court noted, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F .3d at 1315. As illustrated below, applicant's specification is quite clear in defining the meaning of the term "overmoulding" and the Examiner's construction of this term in support of his rejection is inconsistent with this meaning.

As noted above, the method of claim 1 requires, inter alia, "overmoulding a body from a block of an insulating material onto the coil and onto the inner ends of the connecting terminals." As required by the *Phillips* court, one should first turn to the specification to decipher the meaning of the term overmoulding. As illustrated by the examples below, the term overmoulding has a specific meaning within the applicant's specification not anticipated by the '388 patent.

- The body is formed from a block of insulating material over-molded onto the coil and onto the inner ends of the terminals, the body including a central opening which passes through the body along the axis of the coil. (Abstract)
- The body, for example is made of a thermosetting epoxy resin or a thermoplastic polymer, overmoulded directly on the coil and the connections...(page 4; lines18-19)
- In a first preferred embodiment, the body is for example made of a thermosetting epoxy resin or of a similar material adapted for shaping by overmoulding on a winding 4 as can be seen especially on figures 8 and 11. (pg. 9; lines 4-7)
- The body 1 is then overmoulded on the assembly thus obtained so as to embed the winding and the coil connections to the grid in the resin as shown on figures

6 and 8 and to obtain body 1 with two lateral sections 11 located symmetrically in relation to the centre plane P and from where emerge the elements 22 of the grid and two transverse sections 12 making a central opening 13 which passes through the body in the direction of the coil axis. (pg. 10; lines 11-16)

- In fact, using a thermosetting polymer, such as epoxy resin, can be made more easily by a classical epoxy transfer molding encapsulation process, because lower temperatures are required. But the fabricating process requires a longer cycle time. Comparatively, the cycle time, when using an injectable thermoplastic polymer, is far shorter. However, the required temperature of injected plastic is higher, and can reach temperatures which are substantially equal or even a little bit higher than melting point of some of the materials that are overmoulded. (pg. 11, lines 18 - pg. 12 line 2.)
- A thermoplastic polymer is then injected under pressure in the mould, at the required temperature for the chosen polymer, so that it wraps the coil and connecting wires assembly and fills the mould, which is cooled, then opened to extract the component. The injection process is typically a liquid crystal polymer (LCP) injection process, wherein the polymer is, for instance, VECTRA E 130 I LCP plastic, commercialized by HOECHST Chemical, or a similar material. The plastification temperature is higher than 300°C, and the moulding pressure is 40 to 60 bars, (around 740 psi). The injection cycle time is less than 15 seconds. (pg. 12, lines 14-22)

Clearly, the applicant's specification has imparted a specific meaning to the term "overmoulding." As supported by the sections of the specification highlighted above, the term "overmoulding" is defined as a process wherein, for example, a polymer is moulded over the assembly so as to embed the winding and the coil connections. The specification provides

specific examples of known processes to achieve this step such as using a thermosetting epoxy resin or thermoplastic polymer in an injection moulding process.

In addition, applicant contends that the Examiner's position that the order of when the body is formed relative to the coil is not claimed is in error. Applicant contends that this order is inherent in the definition of the term overmoulding provided by the application. Specifically, applicant notes that in order to overmould a body onto a coil, the coil must have been formed previously. It would be impossible to overmould a body or onto a coil that does not already exist.

While Applicant believes that the specification is in this case dispositive, the meaning of the term found in secondary sources are also consistent with the meaning of overmoulding advanced by applicant. The following definitions from two technical websites are examples.

- **Overmoulding** - An injection moulding technique used to encapsulate and protect components or small sub-assemblies, usually by moulding a soft, flexible plastic over the components which must be able to withstand the temperatures and pressures of the moulding process. Used for cable connectors, gaskets, and for incorporating small components into cables. Two shot moulds may be used to provide soft plastic grips over a hard plastic shell.
(<http://www.mpoweruk.com/glossary.htm>)
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(<http://www.axeonpower.com/glossary.htm>)

Although not necessary because the specification is dispositive, the definition provided by these secondary sources is clearly consistent with applicant's specification. The term

overmoulding requires moulding a material over a preexisting component. The Examiner's definition is inconsistent with both the specification and the term's ordinary meaning.

Therefore, because the '388 patent does not disclose a process of manufacturing an inductive component including the step of overmoulding a body from a block of insulating material onto a flat coil and the connecting terminals, applicant believes that the subject matter of claim 1 is not shown or disclosed in the '388 patent, such that claim 1 and claim 3 which depends from claim 1 are allowable. Therefore, applicant respectfully requests the withdrawal of the rejections of claims 1 and 3.

3. Rejection Under 35 U.S.C. §103(a)

The rejection of claims 4 and 7–10 under 35 U.S.C. §103(a) as being unpatentable over the '388 patent in view of Yanase et al. U.S. Patent No. 4,370,292 ('292 patent) is respectfully traversed, because, inter alia, there is no teaching or suggestion to combine or modify the references to produce the claimed invention.

Furthermore, each of claims 4 and 7–10 depend ultimately from claim 1 and consequently include all of the limitations found in claim 1. As discussed previously concerning the rejection of claim 1, the '388 patent fails to disclose each of the elements of claim 1, specifically the step of overmoulding a body formed from a block of an insulating material onto the flat coil and onto the connecting terminal. As a result, because the '388 patent and the '292 patent fail to disclose or suggest each of the elements of claim 1, from which each of claims 4 and 7–10 depend, these prior art references also fail to disclose each of the elements of claims 4 and 7–10. In light of the foregoing, withdrawal of the rejections of claims 4 and 7–10 is respectfully requested.

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CONCLUSION

It is submitted that claims 1, 3, 4 and 7-10 are in compliance with 35 U.S.C. §§ 112, 102 and 103 and each defines patentable subject matter. A Notice of Allowance is therefore respectfully requested.

No fee is believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

The Examiner is invited to contact the undersigned by telephone if it would help expedite matters.

Respectfully submitted,

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